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(54) PC RELATIVE BRANCHING METHOD WITH HIGH-SPEED DISPLACEMENT

(57)Abstract:

PROBLEM TO BE SOLVED: To operate a PC(personal computer) relative branch instruction with a displacement at a high speed without changing the instruction operation of an existing processor or adding a new instruction.

SOLUTION: The lower portion of a branch address calculation is executed in advance before an instruction word is stored in a cache or a buffer, and calculation results are written on the displacement portion of the instruction word and the bits added to the cache or the buffer. The branch address calculation can be executed at a high speed by utilizing the calculation results stored in the cache or the buffer to omit the calculation of the lower portion of the branch address calculation at instruction execution.

